

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 27 OCT 2005

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Applicant's or agent's file reference FNTYA018WO		<b>FOR FURTHER ACTION</b>		See Form PCT/PEA/416
International application No. PCT/JP2004/008686		International filing date (day/month/year) 15.06.2004	Priority date (day/month/year) 23.06.2003	
International Patent Classification (IPC) or national classification and IPC B60K41/00, B60K6/02				
Applicant TOYOTA JIDOSHA KABUSHIKI KAISHA et al.				
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>				
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>				
Date of submission of the demand  14.01.2005		Date of completion of this report  26.10.2005		
Name and mailing address of the International preliminary examining authority:  European Patent Office - Gitschiner Str. 103 D-10958 Berlin Tel. +49 30 25901 - 0 Fax: +49 30 25901 - 840		Authorized Officer  Călămar, G Telephone No. +49 30 25901-505		



**INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY**

International application No.  
PCT/JP2004/008686

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**Box No. I Basis of the report**

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1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

**Description, Pages**

1-28 as originally filed

**Claims, Numbers**

1-13 as originally filed

**Drawings, Sheets**

1/8-8/8 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT  
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International application No.  
PCT/JP2004/008686

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	1-13
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-13
Industrial applicability (IA)	Yes: Claims	1-13
	No: Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**Re Item V.**

- 1 The following document is referred to in this communication:

D1: EP0983894 A (ROVER GROUP) 8 March 2000 (2000-03-08)

- 2 This report was drawn up after carefully taking in consideration the applicant's argument to the International Search Opinion.

- 3 The application does further not meet the requirements of Article 6 PCT, because claims 1-6 and 10-13 are not clear.

- 3.1 Letter dated January 14, 2005 does not give precise answers to the clarity issues raised in paragraphs 3.3 to 3.12 below (the same as paragraphs 3.1 to 3.10 from the Written Opinion of the ISA).

- 3.2 According to the description on page 3, lines 4-6, the problem to be solved is stabilizing the vehicle speed even in a drive on a downslope. Having the claims above unclear is further unclear how this problem is to be solved.

- 3.3 With respect to claim 1, the expression "in order to have a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map with respect to at least part of the vehicle drive command value equivalent to the non-linear portion, and driving and controlling the motor and the internal combustion engine to drive said hybrid vehicle with the setting of the vehicle driving force" is not clear.

Is not clear how to have a driving force with "a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map".  
Is not clear in this formulation how can anything have "a higher linearity" than something which is already defined as "non-linear".

A function may basically be linear or non-linear but not "more or less linear".

It is further unclear what "a part of the vehicle drive command value equivalent to the non-linear portion" exactly defines.

- 3.4 With respect to claim 2 is not clear what is practically is defined by "a negative zone, a dead zone and a positive zone".
- 3.5 Referring to claim 3 is not clear how "a non-linear setting map linearly increases".
- 3.6 With respect to claim 4 is unclear how a linear setting map has "a higher linearity than the non-linear setting map".
- 3.7 With regard to claim 5 is not clear what is practically defined by "a negative zone, a dead zone and a positive zone".

It is further unclear what the applicant exactly means by "the linear setting map has a negative zone which has a higher fraction, a dead zone which is kept substantially equal to 0 and has a lower fraction, compared with the fractions of the negative zone and the dead zone in the non-linear setting map".

- 3.8 Regarding claim 6 is not clear how "the non-linear setting map and the linear setting map linearly increase the vehicle driving force".
- 3.9 Referring to claim 10 the following formulation is unclear: "to have a higher linearity with respect to part of the vehicle drive command value corresponding to a non-linear portion of the non-linear setting map". Here is unclear how the drive command value can have a higher linearity than a value corresponding to a non-linear portion of a setting map.
- 3.10 With respect to claim 11 is unclear what is practically defined by "a negative zone, a dead zone and a positive zone".  
Moreover is unclear to which "preset opening" the applicant refers when comparing the drive command value and what exactly is meant when stating that the opening is included in the dead zone.

It is as well unclear "while correcting the vehicle drive command value, which is less than the preset opening". At line 23 in claim 11 the drive command value is defined as "not less than a preset opening".

3.11 Regarding claim 12 the expression "a higher linearity than the non-linear setting map" is unclear.

3.12 Referring to claim 13 is again not clear what is practically defined by "a negative zone, a dead zone and a positive zone".

It is further unclear what the applicant means by "the linear setting map has a negative zone which has a higher fraction, a dead zone which is kept substantially equal to 0 and has a lower fraction, compared with the fractions of the negative zone and the dead zone in the non-linear setting map".

4 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 10 does not involve an inventive step in the sense of Article 33(3) PCT.

When considering the inventivity issue, features like "linearity" and "non-linearity" are regarded as disclosed by, for instance, the figures 2 and 3 in D1.

4.1 With respect to claim 1, D1 discloses:

A hybrid vehicle driven with power from a motor and an internal combustion engine, where the motor is capable of outputting power to a drive shaft linked with an axle (Fig.1, Claim 9), said hybrid vehicle comprising:

a vehicle speed sensor that measures a vehicle speed (Claim 1);

a drive control module that sets a vehicle drive command value in response to the driver's accelerator step-on action, refers to a non-linear setting map to set a vehicle driving force corresponding to the vehicle drive command value, and drives and controls the motor and the internal combustion engine to drive said hybrid vehicle with the setting of the vehicle driving force ([0011], implicit),

while in the case of setting the target vehicle speed by said target vehicle speed

setting module, said drive control module sets the vehicle drive command value, based on the vehicle speed measured by the vehicle speed sensor and the target vehicle speed, so as to drive said hybrid vehicle at the target vehicle speed, setting the vehicle driving force corresponding to the vehicle drive command value (Claim 12, Figure 2), in order to have a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map with respect to at least part of the vehicle drive command value equivalent to the non-linear portion, and driving and controlling the motor and the internal combustion engine to drive said hybrid vehicle with the setting of the vehicle driving force.

The subject-matter of claim 1 differs from D1 in that a target vehicle speed setting module sets a target vehicle speed for a constant speed drive, in response to a driver's setting action (22).

The problem to be solved may be regarded as improving drive smoothness.

Cruise control systems are well known in the art and therefore claim 1 is not considered to be inventive.

4.2 The same applies mutatis mutandis to claim 10.